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Examination of the Structural Development and the Spiritual Cultural Evolution of Humanity Through Mammoths

Abstract

In architectural inferences for archaeological research, it is of great importance that physical evidence is correlated and interpreted through analogy. From this perspective, there is evidence that many examples of huts that may be related to each other and to the mammoth skeletal structure have been built in the Old and New World since prehistoric times. The structure of the mammoth trunk cage may have been a model for the load-bearing system of tent-type huts and roofs, which were thought to have been made with tree branches since ancient times. In early people, situations were often observed where faith and building activities fed and intertwined with each other. There are also some finds and interpretations in the literature that mammoths are accepted as a ritualistic idol. The interaction of construction and belief activities in human history can also be interpreted through the profound impact of mammoths on human cultural evolution.

Keywords: *Prehistory settlement archaeology, architectural analogy, architecture archeology, last glacial maximum, history of religions*

Mamutlar Üzerinden İnsanlığın Yapısal Gelişiminin ve Ruhsal Kültürel Evriminin İncelenmesi

Öz

Arkeolojik araştırmalara yönelik mimari çıkarımlarda, fiziksel kanıtların analoji yoluyla ilişkilendirilmesi ve yorumlanması büyük önem taşımaktadır. Bu açıdan bakıldığında, tarih öncesi çağlardan bu yana Eski ve Yeni Dünya'da birbiriyle ve mamut iskelet yapısıyla ilişkili olabilecek birçok kulübe örneğinin inşa edildiğine dair kanıtlar bulunmaktadır. Mamut gövde kafesinin yapısı, eski çağlardan

beri ağaç dallarıyla yapıldığı düşünülen çadır tipi kulübe ve çatıların yük taşıma sistemi için bir model oluşturmuş olabilir. İlk insanlarda inanç ve inşa faaliyetlerinin birbirini beslediği ve iç içe geçtiği durumlar sıklıkla gözlemlenmiştir. Literatürde mamutların ritüelistik bir idol olarak kabul edildiğine dair bazı bulgu ve yorumlar da mevcuttur. İnsanlık tarihindeki inşa ve inanç faaliyetlerinin etkileşimi, mamutların insanın kültürel evrimindeki derin etkisi üzerinden de yorumlanabilir.

Anahtar kelimeler: *Tarih öncesi yerleşim arkeolojisi, mimari analoji, mimari arkeoloji, son buzul maksimum, dinler tarihi*

Introduction

At the heart of archeology is the process of inference, that is coming to a conclusion based on some basis. This process relies on the observation of the archaeological record through the application of analogy and/or uniformity. The more observations and the greater the amount of evidence, the higher the chance of interpretations being correct (Shillito, 2017). Today, based on architectural archaeological data, inferences based on Decimation between different periods and societies can be formed. For example, there are many studies in the literature that compare the Epipalaeotic/Neolithic Near East with pre-colonial North America based on ethnographic analogies for cottages (Goring-Morris and Belfer-Cohen, 2008; Gebel and Hermansen, 2004; Stordeur et al., 2001). In this study, the relationship which on the existence of the mammoth, which is common to both, between the Old and the New Worlds will be tried to be established based. For this, it is necessary to take a look at the possible effects of mammoths on early human livelihood, culture and belief systems. Also for these, first of all, it is necessary to look at the mammoth hunting activities and the use of mammoth bones in tool making of early humans. Because this view will provide information on the role of mammoths in early human subsistence. Inevitably, mammoths' influence on culture and belief systems is expected to increase in proportion to the size of this role. In fact, depending on all these, the use of mammoth elements and/or the effect of mammoth body structure and skeletal system on human structures should be expected to be important in early human construction activities. Studies conducted in this direction highlight the similarities between construction activities in the ancient and new worlds and the mammoth ribcage structure (Koç, 2022; Koç, 2024). Stone hand axes first began to appear in Africa, Asia, and Europe about 1.3 million years ago (Black 2005). According to the studies on in areas belonging to the Acheulean people, it can be said that hand axes made of animal bones were the most outstanding tools used by early humans (Finkel & Barkai, 2018). Native Americans carved chert and flint in the form of

pointed arrows that could pierce the skin of mammoths up to 9000 BC (Black 2005). Human activities in these settlements, called Clovis points in the West of North America, were an important factor in the extinction of mammoth herds in a short time (Pluta, 2012). Also in Northern Eurasia, the connection between mass mammoth deposits and evidence of human activity is undoubted and in some cases manifests itself in where tradition calls archaeological sites. Humans also spread widely in Arctic Siberia during the Late Pleistocene (Pitulko at al., 2017). In recent years, new deposits of mammoth faunal remains (mammoth cemeteries) have been discovered in the northern part of the Yana-Indighirka Plain in the region. Except for the mammoth, there are almost no faunal remains in the region. In addition, these regions contain abundant evidence of past human activities (Pitulko, at al., 2015). Tools made of ivory are widely distributed in the region, starting at least 30,000 BP (Vereschagin, 1977). The site is also the first to document the spread of pre-Holocene microblade technology in the Siberian Arctic. Some of the sites in the region are thought to have been formed as a result of ancient humans hunting mammoths (Brugère, 2014). Yana is the only site where systematic mammoth hunting by humans has been proven (Nikolskiy and Pitulko, 2013). Because the hunting of mammoths by humans does not necessarily leave visible traces that have survived to the present day (Pitulko et al. 2016). Presumably, the formation of mammoth remains at similar concentrations in Moravia in east of the Czech Republic, also resulted from the same type of human activity (Brugère and Fontana, 2009). As a result of the mammoth-human interaction, mammoths have left deep psychological traces in the social memory of the Stone Age man. This is clearly seen both in cave paintings and in mythological narratives. There have been many beliefs about mammoths and mammoth-like mythological creatures in the North American, European and Turkish- Siberian mythologies (Jandacek, 2018). Towards the end of the Paleolithic Era, human communities lived in tents they built in natural caves and open spaces, as in previous periods. The huts were built half buried in the ground. Thus, the heat loss is minimized. Siberian people of the Upper Paleolithic lived mainly in such huts. They covered the walls of tents and huts with the teeth of mammoths, and then covered them with animal skin. It has been established that the bones of 95 mammoths were used in the construction of such a hut. It is estimated that several families lived in the same hut. A January was built in each hut, and fat mammoth bones were burned to keep warm on these Januaries (Özdoğan, 2002). In periods before the age of these huts,

mammoth corpses may have been used by humans as shelters in their own right. So maybe, these huts are kind of an activity to create a larger-openness mammoth body.

1. A Brief Look at the Influence of Mammoths in Human Cultural Evolution

The materials used in building construction progressed from perishable organic materials to wood and bones, from mud and field stones to worked stone and adobe. The shape of the structures and, accordingly, the construction techniques have evolved from circular and oval to square and quadrangular to multi-storey structures in the Neolithic period (Byrd, 2000). In addition, equipment such as fire pits, various hearths, ovens, storage volumes and platforms were developed (Aurenche, 1981; Byrd, 2000). Of course, it is assumed that architectural remains reflect more than icons. Architectural applications have great effectiveness in manipulating the environment and providing technological developments. For example, Olga Soffer (1985a), examining the mammoth huts mentioned above, conducted a comprehensive analysis of Upper Paleolithic remains in the Central Russian Plain. Her studies led her to interpret differences in settlement scale and complexity as evidence of seasonal variability. This reflected the sharply unequal distribution of animal resources in the periglacial mammoth steppe. Mammoth bone dwellings, plenty of portable art, a fixed storage facilities and placements with imports sea shell mezhirich great like Amber and Yum at the same time that annual North channeled a large river systems (and Desna Dyneper) and are aligned in a meaningful way. These lines coincided with the southward movements of steppe bison, horse, caribou, and mammoth. Sites lacking these features typically occurred at higher elevations, away from floodplains, and formed seasonal and occupational variants of the same settlement system (Soffer, 1985b). These places displayed a greater concentration of merchandise, personal ornaments, and elaborate architecture. This process was one that Soffer thought was driven by social and ideological factors rather than environmental pressures (Soffer, 1985b). The strong binary patterns of organization that seemed to have existed along the glacial front of Upper Paleolithic Europe seemed to create special opportunities for the conscious and reflexive elaboration of social structures. This situation, defined as the blooming of cultural creativity and symbolic expression in Upper Paleolithic Europe (Wengrow and Graeber, 2015), emerges as a distinct explosion of expressive activities that touch upon the perennial problems of social life in the archaeological record, such as the relationships between men and women, humans and animals, or life and death. It also manifests itself in the instrumental use of symbolic resources (Wengrow and Graeber, 2015). For example, it is clear that in most Upper Paleolithic burial practices, the

corpses of the dead were tried to be fastened with heavy mammoth shoulder blades or wood, tied tight or pressing with stones, as observed by Paul Pettitt (2011).

The presence of artifacts made on mammoth ivory of a different age than in the Berelekh region and the settlement formation in the Syalakh mammoth cemetery of the province studied in the northern part of the Yana-Indighirka plain is an interesting common feature of various settlements (Pitulko, et al., 2016). An ivory artifact from Ilin-Syalakh is beyond the radiocarbon limit (43,500 years). This age is very different from the time of burial formation (roughly 15,000–14,000 years ago) and undoubtedly indicates that humans used older mammoth tusks from existing sediments. The use of ivory raw material of different age from human habitation has also been found at the Yana RHS site (Pitulko et al., 2015) and so this is a common practice that happens occasionally for some reason. Archaeological evidence that mammoth bones were used long after the disappearance of mammoths can be interpreted as a unique proof of this (Halfon and Barkai, 2020). The mammoth was also common in cave drawings in the Périgord region in Southwestern France; here they are usually shaped in red (Paillet and Wolf, 2018). Périgord's mammoths, just as writers vividly write about events that happened long ago, or artists draw familiar landscapes from memory, may reflect longing; for they had long since disappeared in that region at the time they had not been in that area for a very long time (Halfon and Barkai, 2020). Mazel (2009) states that indigenous societies all over the world have vast information networks spanning hundreds of kilometers. In the regional information processed in ancient times in different geographies, there is a closeness up to the point of identification of mammals with humans as persons (Halfon & Barkai, 2020). This situation allows us to assume that early humans were somehow aware of the trends of the era. It may even be possible, as Herva (2021) says, to explore and feel the relationship between the seemingly unrelated far north of Europe and the Mediterranean worlds through a new observation through the landscape. Herva (2021) is caught up in these thoughts when he visited the settlements of Semitic communities who had been reindeer herders in Northern Europe from an unknown time in the past until the Second World War. Known as Nilppa's field, Nilppa's residential areas are an ancient Semitic settlement 300 km north of the Arctic Circle and 50 km from the shores of the Arctic Ocean. It is noteworthy that the landscape of the area coincides with the landscape of the Mediterranean regions. For early humans, the landscape was a living being. In fact, perhaps,

since the past ages, as Henrich (2015) and van den Berg (2021) say, our bodies, minds, perceptions and DNA have been constantly evolving together with the landscape.

Similar to the examples above, whales have deep symbolic and practical meanings for some indigenous peoples of the Arctic. Anthropologist Charlott Coté, who is also a member of the Nuu-chah-nulth group on Canada's northwest coast, describes her people's relationship with animals as respect and gratitude. She explains that there is a sense of sanctity attached to the soul of the animal as it gives itself to whalers, and that in this symbiotic relationship, death is ultimately integrated with life (Coté, 2010). Another example is what a Native American representative said during a US congressional hearing on hunting rights in 1979. The representative explained that the group's need for buffalo meat is more than just food, the importance of ceremonies that require the presence of a live buffalo or at least a piece of buffalo such as a tongue or skull. He told members of Congress that many indigenous band members had a mental illness because they had not seen or lived near a buffalo (Josephy, 1984).

It is very important for Siberian Yukagirs to become deer or reindeer while hunting, to act, smell and look and think like them. Some hunters consider meeting a deer as meeting a loved one or honorable friend (Willerslev, 2007). The anthropological record is replete with examples of the synergistic relationship of hunter-gatherer societies with game animals. Similarly, in a tale of the Innu hunters of Northern Labrador, animals are told as partners of equal importance to humans. This story, which contains ritualistic elements, was first recording in1930 by W.D. Strong. The story tells of animals as people with their own desires and intentions. Humans are dependent on these equals, and humans are expected to treat them with respect and maintain good relations with the non-human elements of the world (Armitage, 1992). For the Innu, the deep connection between animal respect and livelihood and ontology is also expressed in their avoidance of wasteful behavior, do not disposal of animal remains, banquets and food offerings, and other forms of ritual behavior (Loring, 1997 ; Tanner, 1978). The very strong conceptual links between hunters and their prey that go beyond practical feeding can be highlighted. Because for a long period of time, animals, especially large mammals, were the primary and sometimes the only sources for people to make tools, shelter, clothes, and the like (Coté, 2010; Kendrick, 2013). This is even more true in the case of mammoths, as discussed in this article.

2. An Overview of the Influence of Mammoths on Humanity's Spiritual Evolution

Mammoths appear in Upper Paleolithic zoomorphic depictions (roughly 35-15 thousand years), cave depictions and as portable symbolic/ornamental objects, showing the important places of the horned in the lives and symbolic space of these early people (Braun and Palombo, 2012). There are more than 500 mammoth depictions in total in Paleolithic cave depictions. Such representations often appear on the walls and ceilings in the form of paintings and engravings, as well as carved and chipped pieces of ivory. The motivations behind their creation are not yet known.However, these depictions stem from complex sets of social behaviors and seem to reflect beliefs, worldviews, cosmologies, and the nature of human/nonhuman interactions (Clottes, 2016; Fritz et al., 2016). Depictions can also be related to the social systems of knowledge transfer and initiation (Nowell, 2015). In this regard, mammoth depictions may provide some indication of human-mammoth interactions, including hunting. In the Upper Paleolithic Era, people were carving their ideas about his body into stone or drawing on cave walls. We can say that the pictorial representation dates back thousands of years before our days. Prehistoric M.He. around 15000, an intriguing mammoth was depicted on the cave wall. In this mammoth painting, it has been seen that there is a leaf-shaped shape on the mammoth where the heart should be. If this depiction is a symbolic representation of a heart on a mammoth, it may have the distinction of being the first anatomical illustration of this period (Lyons and Petrucelli, 1987). In interpreting this illustration, it may be that prehistoric societies were hunter-gatherer societies, that the most remarkable organ was the heart, and after people discovered this, they realized the importance of the heart in hunting animals after such a figure was brought. As a result, visuals, which are channels of expression, have changed the culture of the period to which it belonged before, starting from the Paleolithic Period.

Hunters around the world often develop and maintain a spiritual relationship with animals as diverse as pets, relatives, totems, guides, and prey (Hill, 2011; Mithen, 1999; Nadasdy, 2007). In some cosmologies, humans and animals were the same; they were creative beings with great power and able to transform themselves from human to animal. A well-known example of this belief system with its associated ritual system is the Dreamtime of Indigenous Australia (Lawlor, 1991). In hunter-prey interactions, animals are often seen as sacrificing themselves for humans. In turn, animals expect their victims to be acknowledged, respected, and thanked in a ritualized way. Failure to properly thank animals may result in their refusal to cooperate in the future, to the detriment of

humans. Therefore, game animals are often viewed as ontological entities. They are originally animal people who are equal and conscious partners in a social contract for the maintenance of human societies (Ingold, 2000). Therefore, animals possess animistic powers that are recognized by humans (Helander-Renvall, 2010) and perhaps manipulated by shamans (Erazo and Jarrett, 2018; Jordan, 2001).

Hunting areas themselves can come to life through mutual responsibility, such as the forests in the Guatemalan highlands and where people build temples to recognize the power of the forest (Brown and Emery, 2008). In hunting societies, ceremonies and rituals were usually performed before, during, and after the hunt. For example, Lantis (1938) reported that native whalers in the North American Arctic had a Whaling Society and performed certain rituals before the hunt to ensure the success of the hunt. Additional rituals were performed after the hunt to honor the whale and return its soul to the sea, and the same period of mourning as a human was observed (Lantis, 1938). Lantis (1938) also reported on caching of hunting gear.

There are also numerous ethnographic accounts of elephant hunting: In Africa, for example, these practices are seen in Efe (Bailey, 1991; Fisher, 1992; Joiris, 1993, Lee, 1979, and O'Connell et al., 1988). In any case, a set of predetermined rituals accompany elephant hunts (Agam and Barkai 2018; Byers and Ugan 2005). However, such hunting is not common even in elephant hunting groups (Roosevelt, 1920). Also not just for pre-Clovis, with regard to mammoths, there is some evidence for Clovis (period) settlement and livelihood systems and also on the religious/ritual system (Sutton, 2021). In some areas most of the Clovis weapons were apparently broken without use and painted an ocher color. This suggests some ritual behaviors (Frison et al., 2018; Stafford et al., 2003).

The partial and fragmentary skeleton of a one- to two-year-old boy (Anzick-1) discovered in the Anzick region of Montana, which can be clearly associated with the Clovis-era funeral system, also contains evidence of ritualistic activities (Fiedel, 2017; Jones 1996). Anzick-1 individual belongs to the year 12,880 ca. An analysis of the isotopes in its bones suggests a diet consistent with the mammoth (most likely the mother's diet) (Morrow and Fiedel 2006). The bones were almost certainly covered in deliberately placed embedded materials, artifacts, and a significant amount of mustard. Jones (1996) thought that the artifacts might have been produced as grave gifts, indicative of status differentiation (Frison 1991). This idea is supported by the use of high quality raw materials, excellent craftsmanship and the use of red ocher (Jones 1996). One of the defining

features of Clovis is the use of red mustard. Ocher has been reported in some burial sites (Frison 1982; Mackie et al. 2020), several camps (Mackie et al. 2020; Tankersley et al., 1995), and a burial (Lahren and Robson, 1974; Fiedel, 2005; Osborn, 2016).

The subject of the vast majority of cave paintings and engravings of the Upper Paleolithic they're animals. The fact that people are rarely seen in these paintings is a sign of life and thinking that is directed towards nature or under the influence of nature. The fact that arrows have been drawn on some of the animals that have been painted reveals that the main reason they are interested in animals is a livelihood problem. On the one hand, aesthetic skills and wishes were reflected in the paintings, and they were also used as religious icons (Wilson, 1898; Şenel, 1982; Davis, 2016). Animal bones found in caves, processed bone, flint, obsidian and horn the tools are clues to the economy of that period. It is also observed that certain corners of some caves are specially organized as cult and worship areas. This information takes into account the fact that Paleolithic and Mesolithic people were not heathens. People of the Paleolithic and Mesolithic periods have an afterlife concept. That's why people were burying their dead. In their eyes, the dead is not extinction. Sometimes, to help or protect the deceased in his life in the afterlife, he takes with him the feet, and horns of the animals they killed and sometimes they put their fire tools in goat and deer horns or mammoth scapula among them can be noted (Kansu, 1991; Uçankuş, 2000). Archaeological findings belonging to the oldest periods of human history give important information about the beginning of the cultism process of animals. An example of this is the lion man (or woman) statue in the Stadel cave, located in Germany and dated to about 35,000 years ago. Mammoth teeth and fox teeth, which are understood to have been used in decorations, can be given as examples in the 33 thousand-year-old tombs in Sungir, Russia. Also, The presence of a dog skeleton found next to the skeleton of a woman in her fifties in a 12-thousand-year-old grave found in Northern Israel suggests that it is related to the cultism processes of animals (Harari, 2014; 2016).Likewise, wild animal drawings in Magura Cave (Bulgaria) dated to 8 thousand to 4 thousand years ago and animal paintings dated to 12 thousand years ago in Göbekli Tepe are examples that depict the human-animal relationship and provide important clues about the subject. The depictions based on the primitive use of symbols in these paintings are the starting point of the animal cults and the rites related to them (especially hunting) that will develop later (Dilek, 2020). Another development is related to architecture. In the building activities of early humans, a special

type of building for common use emerged.The oldest such structures are seen at the Hallan Çemi excavation site near Batman and Göbekli Tepe just south of Urfa. These structures are also distinguished from residential buildings in terms of plan and wall technique. The existence of special structures is the oldest example of the reflection of the belief system in the architectural and settlement order and shows us that the spiritual class has gained a privileged place in public life since very early times. Archaeological evidence shows that the main element that shaped the social structure in the Neolithic Era, as well as in the Paleolithic Era, was the belief system of the era.

3. A Brief Overview of the Development of Humanity's Construction Activities

Caves were used as a home by early humans. The caves used by the first people were usually formed in limestone rocks when surface waters found a place for themselves underground (Clodd, 1905; Osborn, 1916; Van Loon, 1920; Braidwood, 1995; Yıldırım, 2012). These caves reveal their daily life with all its nakedness. In one corner of the cave, the animals that were usually hunted and brought were dismembered, and in another corner, food was cooked in a fired oven. A workshop was prepared inside or just at the entrance of the cave, and woods were stacked to keep the fire alive (Clodd, 1905; Macalister, 1912; Kökten, 1952). As a matter of fact, many small pits were found on the floor of the Shanidar Cave in Iraq, where food was stored. Apparently, they dried meat to eat in times of famine or stored it after various treatments (Osborn, 1916; Solecki and Ralph, 1974; Kels et al., 2011). Similar processes are still applied to meat in Anatolia today and durable food materials called pastrami are created (Arslantaş, 2014).

Huts used 400,000 years ago have been found near Nice in France (Arslantaş, 2014). Located in Terra Amata, Nice, France, these huts are oval-shaped, measuring 15.8 m x 6.4 m (Henry, 2010). The huts are buried in the ground at a shallow depth. Each hut has a side entrance. They have walls supported by wooden posts with a diameter of 7 cm. A central column also supports the roof. During 300 thousand years, 21 archaeological layers were formed. Primitive stoves and various other traces are layered on top of each other in these layers. These layers, formed by the use of huts by the same group of people for generations, helped to preserve the original form of the huts (Suliman and Sulimen, 2015). Another type of housing structure dating back 150,000 years has been found in the Lazaret Cavern in the eastern suburbs of Nice. This house have 10 m. x 5.3m. floor area was supported by columns and masonry in an organized manner. Numerous stone vessels and bones developed by Homo erectus were found at the site (Moheisen, 1982). Early Natufian (about 13,000-11,000 calBC) architecture in the Mediterranean Region, which belongs to a much

later period, includes spatially separated 7-15 m. diameter circular and D-shaped structures with stone foundations (Goring-Morris and Belfer-Cohen, 2008). The walls of Natufian houses rarely exceed 2-3 rows and may have also had organic superstructures. Their floors consist of compressed earth surfaces with various post holes (Maher et al., 2012). Based on the location of the post holes, it is believed that the structures have circular internal arrangements and relatively complex roof coverings (Goring-Morris and Belfer-Cohen, 2008). Small shallow hearths have been found outside and even inside some dwellings in Europe. In some of the sites there were very large shallow pits with an area of more than 100 m2, which, if they were really dwellings, should probably have been occupied by groups much larger than the nuclear family (Grigor'ev, 1967). The Northern European Neolithic villages at the stage of the Neolithic Dec Decolonization of Northeastern Europe, a later period - clusters of semi-underground houses dated between 4000 and 2000 BC- were discovered only recently and caused quite a stir among Finnish archaeologists. There is a large cluster of such sites in the northern Li River where Kierikki is located. These Stone Age house ruins, found in 5 cm layers, have a 1 × 1 m floor area (Herva, 2021). Between 18 and 12 kya, along a section of the glacial fringes from Kraków to Kiev, people lived in the impressive circular houses studied by Olga Soffer (1985b). Soffer defines them as the Pleistocene version of public works or monumental architecture. Each such dwelling was built on a frame of mammoth tusks and carefully selected mammoth bones, which were arranged in alternating sequences and rhythmic patterns that sometimes went beyond just being functional. Other open-air sites such as Pavlov and Kostenki are likely to have wooden versions with only post holes and buried floors remaining. These were settlements of considerable scale, whose inhabitants exchanged amber, shells, and animal hides over impressive distances (see also Soffer, 1985a). Western European counterparts are found in major rock shelter invasions in southern France, such as La Madeleine and Abri Pataud (Mellars, 1998). The wooden carrier systems of the buildings and the ropes obtained from animal or vegetable fibers used to connect the wooden elements that make up these systems have survived to the present day in very rare cases. Similarly, archaeological finds of plant-derived areas used as beds are also rare. For example, the inhabitants of Ohaya II, a 23,000-year-old hunter-gatherer settled camp discovered in 1989 on the shores of the Sea of Galilee in Israel, chose a type of grass for creating their bedding, characterized by dense, soft, delicate trunk bundles that grow in the saline soil nearby. Residents appear to have covered the floors with plant material

in at least three cottages (Nadel et al., 2004). Traces of large round mats on floors and courtyards have been preserved in Pre-Pottery Neolithic Jericho (Kenyon, 1981), where long stems and wide reed leaves were widely used Fabrics, baskets and mats from the Nahal Hemar desert cave (about 9,000 years ago) are by far the largest, best preserved and most diverse organic material of any Levantine Neolithic site (Bar-Yosef and Alon, 1988). In the Americas, examples of rope, basketry, textiles and nets, among the earliest remnants of fiber-based technology, were obtained from Monte Verde in Chile (11th-10th Millennium BC) (Adovasio, 1997). The earliest wicker remains from North America were recently reported from Nevada and dated to 10,500 calendar years BP (Fowler et al., 2000). The practice of covering floors with straws, rugs, and carpets has parallels in many new and contemporary hunter-gatherer and non-Western societies around the world. At the same time, to provide comfort and reduce stiffness, produce floor coverings and bedding made for insulation and create a pleasant smell, the selection of fresh local herbs is also common (Levine, 1965; Mair, 1934). Even when mats, carpets or blankets are used, grass floor coverings appear (Barrett, 1916). The 19th and 20th centuries still witnessed the practice of installing a simple bedding material such as turf flooring along the walls of a room (Barrett, 1916; Stern 1965; Chapman, 1982). Throughout history, by arranging bundles of leafy stems in straight parallel clusters (Roscoe, 1966), people have built sophisticated beds and invested in sleeping areas by bringing bundles of a selected type of grass and using a sticky substance (Nadel et al., 2004). True woven mats are not found before the Middle East Neolithic period. Fully woven mats evolved a thousand years after Ohalo II (Nadel et al., 2004). In northeast Asia, in East-Central Siberia, is the Dyuktai Cave on the Aldan River. The earliest deposit at this site is dated to about 16,000 cal years BP and contains some mammoth remains (Mochanov and Fedoseeva, 1996).

4. Possible Effects of Mammoths on Human Structures

During the last Glacial Maximum (LGM), which began to retreat 20,000 BP ago, early humans are likely to have used mammoth corpses as shelters in harsh climatic conditions.

It may be expected that the first people who thought of wearing the skins of small animals to protect themselves from the cold did so too. As can be seen in Figure 1, the body part of the mammoth corpse is suitable to be used directly as a shelter. Later, a more comfortable volume may have been created by turning the body part and digging the snowy ground underneath. The woolly mammoth skin and subcutaneous fat layer is a protective shell against cold and snow accumulation. In fact, the snow accumulated on the crust provides a better insulation for the interior volume. The

fact that the huts built later were covered with soil heaps may be an extension of this experience (see for example Figure 5).

As shown in Figures 2 and 3, the mammoth body form may have been the model for the shape of huts, first made of mammoth bones and skins, and later of wood and mudbrick. The mammoth thorax section alone constitutes sufficient volume for a single-person bunker (Figures 4). In combination with mammoth legs, it is also possible to create more comfortable shelters. It is more reasonable to create such a carrier system on the excavated ground in order to provide lateral support to the vertical carriers of the building. Probably, later on starting construction in an excavated ground for all the early structures built and surviving stemmed from these experiences. In fact, the D-shaped plan areas of some of the early structures and the cylindrical volumes show a high similarity with the mammoth body structure. It is possible that ropes obtained from mammoth wool were used in the element connections. Later on, these structural forms may have continued in the form of connecting the elements formed with wooden carriers with ropes obtained from fibrous plants. The reflections of these forms have been echoed until today's barracks. The reason why the early examples could not survive is due to the fact that wood and vegetable fibers can only be preserved in very rare cases.

As an example of the situations we tried to explain, the modern and old views of the Kyrgyz tent hut (Yurt) are given in Figure 2. As shown in Figure 2, the morphological analogy of the Yurts with the possible usage volume formed under the mammoth skeleton system is clear. It is not surprising that such a structural tradition was formed in Northern Eurasia, where mammoths were found. The primitive examples of the Yurts are most likely the product of a building imitation of the mammoth skeletal system. Even, mammoth bones and mammoth skin and ropes obtained from mammoth wool must have been used as building materials. It is interesting to see the structural forms similar to the Yurts in Northern Cameroon Traditional Cottage much further south. It is an example of the interaction of early humans with each other across distant geographies as explained in Chapters 1 and 2. This structural tradition, which probably started in Northern Eurasia, spread to the South through trade, travels and migrations. Similarly, the analogy of the Afghanistan traditional tent hut with the mammoth body is shown in Figure 3.

The mammoth rib cage structure also seems to have modeled on later cradle roof carrier systems (Fig. 4). Mammoth legs also seem to be modeled for vertical bearing pillars (Figure 5). As

can be seen from Figures 6 and 7, the mammoth body bears a clear resemblance to most later structures. In fact, the roof top attachment of the Viking longhouse shown in Figure 7 shows a clear resemblance to the upper part of the mammoth thorax.

Figure 1. Mammoth corpse (CC BY NC 2.0 and CC BY 2.0) and its use as a shelter (illustrated by first author)

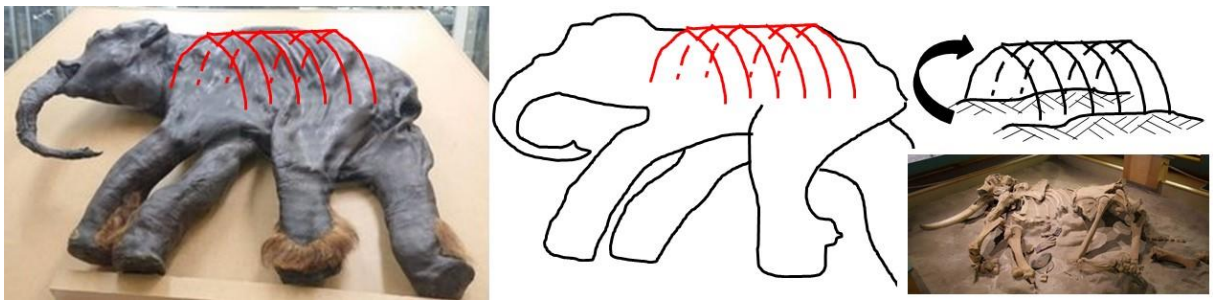

Figure 2. Mammoth skeleton system (CC-BY-SA 2.0), modern and ancient views of Kirgiz Yurt (cc), Northern Cameroon Traditional Cottage (cc)

Figure 3. Mammoth skeletal system (cc), Usability of thorax as a shed (illustrated by firstauthor) , Afghanistan traditional tent hut (cc)

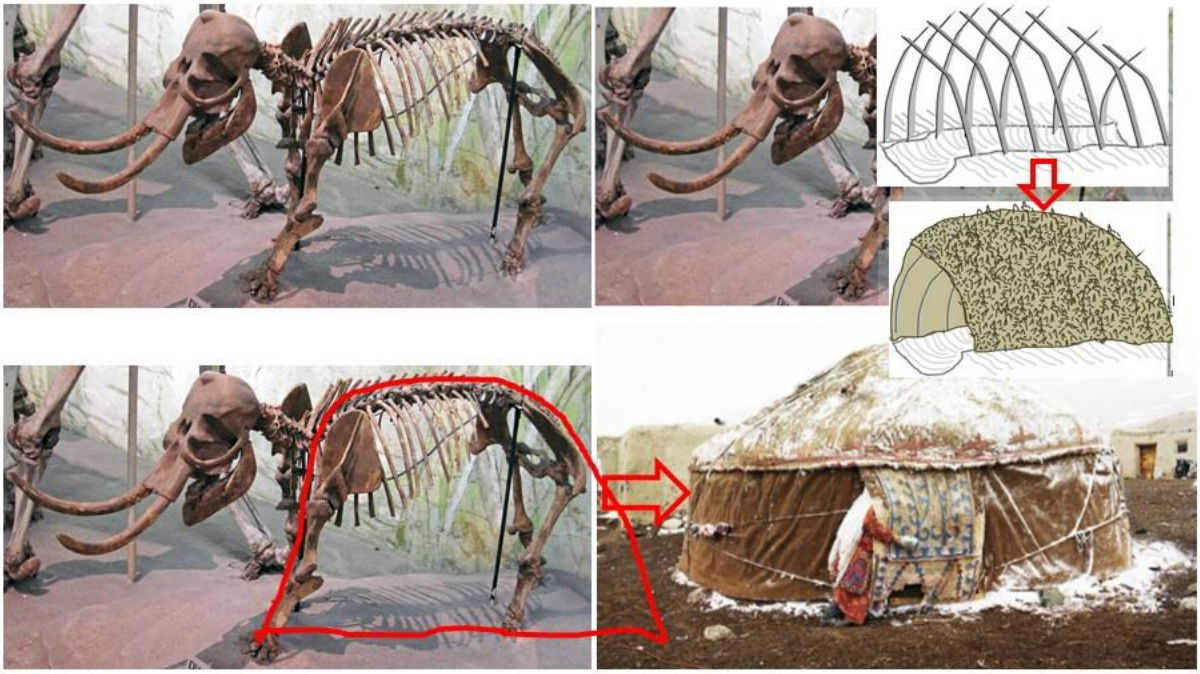

Figure 4. The 12 m mastadon skeleton named Priscilla exhibited in The Houston Museum of natural science

Figure 5. Pawnee lodges at Loup, Nebraska. Photographed by William H. Jackson, 1873. American Indian Select List number 84. From the US National Archives (https://commons.wikimedia.org) Ponca Earth Lodge Interior, Nebrasca Public Media (https://nebraskastudies.org)

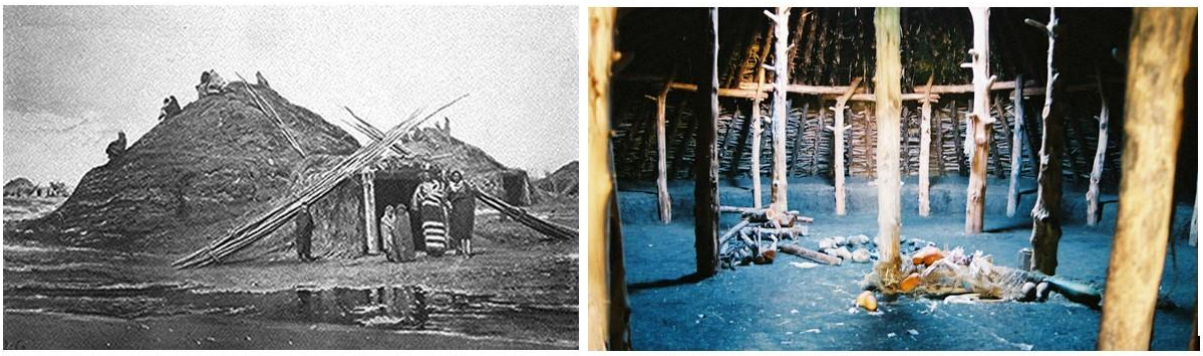

Figure 6. Mohawk Iroquois Longhouse at the New York State Museum, open to the public (http://www.nysm.nysed.gov); Reconstructed Iroquoian longhouse, Ska-Nah-Doht village and museum, London, Ontario (photo: John L. Creese).

Figure 7. A Viking Longhouse reconstruction and mammoth skeletal system

Conclusions

There is a lot of literature about the importance of mammoths in the livelihood and culture of early humans, especially in the North of Eurasia and North America, from LGM to extinction. The body and skeletal structure of mammoths, which are of such importance, inevitably had reflections on human structures with the effect of their large body volumes and harsh climatic conditions. There is evidence that many examples of huts that may be related to each other and to the mammoth skeletal structure have been built in the Old and New World since prehistoric times. At the heart of archeology is the process of coming to a conclusion, that is, inferring, based on some basis. This process relies on the observation of the archaeological record through the application of analogy and/or uniformity. In addition, the interaction of construction and belief activities in human history can also be interpreted through the profound impact of mammoths on human cultural evolution. Because mammoths had significant effects on early human livelihoods, culture and belief systems. When all these data are evaluated together, it is necessary to say that mammoths have an important place in the construction process and spiritual cultural evolution of humanity. These processes have developed in interactions that feed each other, and have created significant reflections in today's construction and belief systems of humanity. By giving sufficient importance to the reflections of the interactive processes of the past in the history of humanity, the scientific opinions that can be formed as a result of the analyzes to be made on these issues should be discussed in the literature. Thus, it will be possible to illuminate this day of humanity and to give positive aspects to its future. This effort will gain even greater meaning and importance, especially when it is carried out through beliefs, which are an outcome of spiritual cultural evolution.

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